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ABSTRACT

An inquiry approach to learning is a process whereby students explore, investigate, search for information, discover and seek solutions without much guidance from the teacher in an open classroom environment. Inquiry teaching is not the only method that can be used in the classroom. Unlike other instructional methods, inquiry does involve students more actively inside and outside the classroom. Learning is viewed as an active endeavor which involves the teacher as facilitator, the learner as capable and self motivated. This paper aims to discuss the process of inquiry: (1) its philosophical and psychological basis; (2) its goals and assumptions; and (3) the nature of learning, learners, and teachers. The paper examines briefly the importance of evaluation in the inquiry method and lists its strengths and weaknesses in classroom instruction. (Contains 19 references.) (Author/BT)

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Learner and Inquiry

Abstract

An inquiry approach to learning is a process whereby students explore, investigate, search for information, discover and seek solutions without much guidance from the teacher in an open classroom environment. Inquiry teaching is not the only method that can be used in the classroom. Unlike other instructional methods inquiry does involve students more actively inside and outside the classroom. Learning is viewed as an active endeavor which involves the teacher as a facilitator, learner as capable and self-motivated. This paper attempts to discuss the philosophical and psychological basis; goals and assumptions; nature of learning, learners, teacher in the process of inquiry.

Key words

inquiry teaching
self-initiated learning
thinking skills
teaching strategy
inquiry approach
social inquiry
problem - solving
learning process
student- centered method
inquiry approach

The Learner and Inquiry

Introduction

The need for assisting educational personnel in varying their teaching strategies is becoming more urgent each day. As educators follow the current trend of movement away from the teacher-centered information dissemination approach towards the student-centered teacher as facilitator of learning approach, they seek various ways of doing this. By employing a variety of methods, students and teachers become more interested and motivated, and the classroom environment fosters effective teaching and learning.

This paper examines one of the newer instructional methods, the inquiry method, in the social studies teaching and learning process. The paper attempts to answer four questions, namely:

1. Upon which philosophical and psychological basis is inquiry method founded?.
2. What are the goals and assumptions of the inquiry method?.
3. What is the nature of learning and learners in the process of inquiry?
4. What is the nature of the teacher in the process of inquiry?

The paper also examines briefly the importance of evaluation in the inquiry method of instruction. Finally it lists the strengths and weaknesses of using the inquiry method for classroom instruction.

The Inquiry Approach to Social Studies

An inquiry approach to learning is a process whereby students explore, investigate, search for information, discover and seek solutions without much guidance from the teacher in an open

classroom environment. Its main purpose is to teach pupils the process of investigating and seeking answers to questions or problems which they have now or will have in the future (Zenger, 1985). Beyer (1979) defines inquiry as one way of learning, of knowing, of making sense out of experience. He associated the following terms with inquiry; enlightenment, questioning interest, seeking participation and curiosity. The inquiry method can take two forms: 1. open inquiry - where the learners identify their own problems, with little or no teacher assistance to carry out their investigation and 2. closed inquiry - where the teacher selects the problem, guides in the selection of materials, and engages students in the inquiry process..

Philosophical Basis

Inquiry methodology is eclectic in its philosophical basis. It draws general ideas from various philosophical view points. It has futurist ideas, existentialist ideas and essentialist ideas. But more specifically, it is well grounded in the pragmatism of John Dewey. Pragmatists believe that knowledge is tentative and subject to revision. They are more concerned with the process of using knowledge. Therefore, education is an experimental process. It is a method of dealing with and solving problematic situations that arise as people interact with their world (Ornstein, 1985).

John Dewey advocates that the most intelligent way of solving problems is to use the scientific method. He thus directly recommends the inquiry method of solving problems. In Dewey's (1963) view, the information needed to solve social problems should come from interdisciplinary backgrounds. Hunt and Colander (1999) state that modern industrialized societies and their problems are becoming increasingly complex. Hence the emphasis being placed on the interdisciplinary approach to many social problems. According to Dewey's philosophy, there is no demarcation existing between the school and society. The school is society's agency for selecting and simplifying

the cultural elements that an individual needs to participate in social life (Dewey, 1944).

Pragmatists believe that effective learning takes place in an active way as the learners, individual or groups, solve problems. The most important objective is that the learner will acquire the method or process of solving problems in an intelligent manner. Most significantly, the teacher does not attempt to dominate learning but seeks to guide or direct student research (Dewey, 1944).

It is upon these philosophical ideas that the inquiry method finds its basis. Unlike the philosophies of idealism, perrenialism, and essentialism, which believe in the lecture method as the way of exposing students subject matter, pragmatism bases its content in problem solving. It emphasizes that effective learning occurs when a person engages in problem solving through the scientific method to solve personal and social problems. It is upon this premise that the inquiry method becomes appropriate in social studies teaching (Dewey, 1963).

Psychological Basis

Inquiry methodology is based on humanistic assumptions as outlined by Psychologist Carl Rogers. Rogers (1994) states that human beings have a natural potential for learning. They are curious about their world unless their desire is blocked by their experiences in an educational system. This potential and desire for learning and discovery can be released under suitable conditions. The whole approach to learning builds upon and around the students' desire to learn.

Significant learning takes place when the subject matter is perceived by the student as having relevance for his own purposes, that is a person learns those things which he perceives as being important in his or her own maintenance. Learning is thus facilitated when the student participates responsibly in the learning process- when he chooses his own directions and formulates his own

problems. Self - initiated learning which involves the whole person of the learner - feelings as well as intellect - is the most lasting because it is creative learning. Socially useful learning is that which develops individuals' ability to cope with change. That is, an individual who considers past learning as significant will be able to incorporate new and challenging learning about ever - changing situations (Rogers, 1994).

Background

To learn about inquiry, one must understand the character of knowledge and its implication for trying to determine the truth about anything. According to Beyer (1979), knowledge is fragmentary and subject to biases, errors in reasoning, and hidden assumptions. Therefore, what is known is highly selective and limited according to the information (data) available to us.

One important tool in the inquiry method is data, which can be gathered as inquiry proceeds. In order to succeed in inquiry we must know where and how to find reliable, up to date sources of a wide variety of information including experience, individual reports, accounts of events and other useful data. Knowledge of a wide variety of specific problem-solving techniques constitutes an important base for effective inquiry learning.

Background knowledge and experience of an individual play a major role in inquiry. It consists of one's past experiences, assumptions, biases, prejudices and concepts which have evolved through previous experiences - that is what makes up an individuals' frame of reference. The individual's frame of reference shapes a person's inquiry. However, an effective inquirer should be aware of his biases and conduct inquiry as objectively as possible (Beyer, 1979; Maxcy, 1986).

Goals and Assumptions

Inquiry training originated in a belief in the development of independent learners. Its methods

require active participation in scientific theory. Children are curious and eager to grow, as stated by Rogers, and the inquiry approach capitalizes on their natural energetic explorations giving them specific directions so that they explore new areas more forcefully. The general goal of the inquiry approach is to help students develop the intellectual discipline and skills necessary to raise questions and search out answers stemming from their curiosity. In the process, students make decisions and take action. Thus students should inquire independently but in a disciplined way. Proponents of this approach want students to question why events happen as they do, and acquire and process data logically while developing general intellectual strategies that can be used to find out why things are the way they are (Bruce, 1996).

The goal of social inquiry is to help people live a better life by directly contributing to the solution to urgent (practical) problems confronting them thereby directly serving policy makers by helping them to make better decisions. Researchers have increasingly become involved in activities concerned with providing insights and solutions to current problems such as drug addiction, juvenile delinquency, and race relations among others (Nelson, 1970).

While social scientists believe that social inquiry should be concerned with practical problems, others believe that goals of social inquiry should be more generic, basic and comprehensive. They consider the formulation of theoretical knowledge as the basic goal of social inquiry. Facts, concepts, and generalizations are necessary for the formulation of theories. Therefore, this category of social scientists believe that theoretical knowledge can help people understand their social environment, make predictions, and thus control components in their environs better than knowledge derived from other researches (Banks, 1990).

Process of Inquiry

Inquiry is a thinking process. It is essentially finding out for oneself. It is the application of purpose to data in order to develop useful knowledge. Inquiry consists not only of knowledge about the nature, source and tools of knowledge and possession of attitudes and values supportive of this way of learning, but it also consists of a unique procedure for processing data or experience (Beyer, 1979). The data may be in any form. It may be either remembered, observed experience, or the learner's information shown on maps, pictures, etc. (Beyer, 1979). This procedure is best described as a process of inquiry. This is done by following certain sequential steps, by employing a mode of inquiry. Beyer (1979) and Hunt and Colander (1999), identified five steps in the process of inquiry, namely:

1. Defining a task
2. Developing a tentative answer - hypothesizing
3. Testing the tentative answer - hypothesis
4. Drawing conclusions
5. Applying the conclusions to new data and generalizing

Nature of Learning

In order to understand the emphasis being put on the inquiry approach to learning as an effective method of teaching, it is important to examine the nature of learning in general. Learning is an activity that influences who a person is, how he or she lives and the meaning which she/he gives to his /her existence. Learning occurs in a person when he/she is thinking, feeling and acting in a particular context. Significant learning combines the logical and the intuitive, the intellect and the

feeling, the concern and the experience, the idea and the meaning. Learning is only possible because some prior things are known (Phillips, 1991).

What is most important in the learning process is thinking about knowledge and experience and constructing personal meaning. This is the process that humans necessarily do, and the learner's feelings and emotions are integral parts of the process. While learning, learners experience the world in meaningful patterns or organized wholes. They respond to meanings and make intellectual connections so as to make sense (Rogers, 1994).

Learning depends upon something being done by the learner. Learning and thinking are "practical" capacities in which learners actively interact with their environment. Common sense and experience play an important role in learning. If the learner is an intimate participant in the activities of the world to which he/she belongs, then knowledge is a mode of participation, valuable to the degree to which it is effective. In the learning process, action transforms thinking and thinking transforms action.

Learning and thinking are stimulated by problems that the learner is vitally interested in resolving. The learner is both physically and mentally active, alert and engaged. The problems that are meaningful to the learners must emerge from situations that fall within their interests and experiences. Learning is equated with applying problem-solving skills. Teaching is to help students acquire these skills, and the entire educational system exists so as to help solve certain national or social problems (Silberman, 1972).

Knowing is an assimilation and natural phenomenon of the environment. Learning occurs as the person engages in problem solving that transfers from a variety of subjects and situations. As students acquire more knowledge and experience in their multi-disciplinary constructs, they glean

salient information from related as well as from what appear to be diverse strands. They organize and develop their own cognitive structures. These structures form the foundation for expanded knowledge of natural and physical laws and humanistic and social endeavors. Once the students have acquired knowledge, depth and complexity follow (Phillips, 1991).

Merely to absorb facts is only of slight value at present, and usually of less value in the future. Learning how to learn is the element that is always of value now and in the future. Learning takes place through an act of insight. Scientific insight is the best form of knowledge for society. The learner or problem solver must be familiar with the elements that constitute the problem and its solution, and the overall situation must be surveyable.

Intelligence is creative and flexible - the student learns from engaging himself in a variety of experiences in the world. In the learning process, the student can be given information by the teacher but unless the student had struggled personally with an issue, the information is likely to be committed to memory as a rather lifeless or mechanical process (Windrim, 1990).

Affective factors such as interest, motivation and emotion are important for effective learning. It is known by all how hard it is to concentrate on anything but the simplest task when individuals are emotionally distraught. Teachers have experienced the way a student's good judgement suffers when he/she is angry. It is very difficult for a miserable student to learn very much (Silberman, 1972).

Another factor that clearly influences learning is the student's sense of responsibility. Rogers (1994), claims that the only learning which significantly influences behavior is self-discovery self-appropriated learning. In order to know the objects, students must act upon them and therefore transform them. Knowledge is constantly likened to actions or operations, that is, with transformations. It is against this background of nature of learning that an inquiry approach to

learning becomes appropriate. The next section examines the nature of learners themselves in this process of inquiry learning.

Nature of Learners

In order for the inquiry approach to be successful, the learner must be a participant in the process. There are conditions that are necessary for the learner in order for learning to occur: 1. Students' perception of the teacher must be acceptable and understandable in order for effective inquiry to be used. 2. Students must be aware of a problem. 3. Real learning takes place in response to a situation perceived by the students as a problem. 4. If real learning is to be facilitated, the teacher must present students with situations they perceive as real, relevant, meaningful problems and issues regarding their existence which they need to resolve. As Rogers (1994) noted earlier, there is a general tendency and a natural motivation in every individual for learning. This is the tendency that should prevail in a classroom that uses the inquiry method, so that when students are faced with a problem or obstacle there would be a natural tendency to face it.

Students in inquiry learning function as scientists, whereas traditional education methods make students less autonomous and less empirical as they progress in their education. An inquiry approach leads to independent thinking and openness, as well as to new, deeper, more lasting understandings (Bruce, 1996).

A teacher who wishes to plan a learning experience that utilizes and fosters inquiry, should include activities in his/her plan that would enable the learner to engage in all of the following stages: Learners developing a purpose, hypothesizing, developing a conclusion, applying ideas and generalizing findings. It is through participation at all stages in the process of inquiry that the learner would be able to refine the intellectual skills and the technology of how to learn by inquiry (Gross,

1971).

Nature of theTeacher

The function of the teacher is to facilitate learning in students by providing the conditions which lead to meaningful or significant self-directed learning. The objective is to develop a group, including the teacher, into a community of learners. In such a community, curiosity is freed, the sense of inquiry is opened up, everything is open to questioning and exploration. Outcomes from such learning conditions stimulate students, creative scientists and scholars to become individuals who can live with changing conditions and be able to relate to what is presently known and work towards altering problems and facts of the future (Paterson, 1977).

The teacher in inquiry learning poses problems and serves as a resource to students in their solution of the problems. Inquiry programs depend heavily on an intrinsic rather than an extrinsic motivation model. Conceptual conflict is meant to drive inquiry along. Conversation marked by the free exchange of ideas is a mark of inquiry-centered programs. It is preserving for ourselves and our students "the right to be wrong" that we gain courage to try out new ideas, to explore alternatives, to evaluate objectively our work as well as the work of others. Students have to learn to trust their ability to find and evaluate answers. To do that, they need to feel safe to ask questions. They need time to think and an environment that encourages speculation. Teachers should reduce praise (reinforcement) or statements that emphasize the failure-success perspective, for example, "okay, fine, you can do better than that". Such statements take from students their opportunity to evaluate solution based on evidence and logic or other features of the situation.

To improve quality of students' inquiry, the teacher has to be aware of the nature of learning, that is, students' ways of knowing and getting information (nature of learning has been discussed

above). Inquiry method's success depends on the teacher's ability to help students form wise answers to their questions (Willen, 1985). The teacher needs to understand the intellectual processes and strategies of inquiry.

As mentioned earlier, inquiry teaching relies on the belief that all learners are motivated naturally to learn. Because all learners do not want to know and understand the same things, it becomes the task of the teacher to allow learners to pursue their own interests based on an initial common problem. For example, students may visit a local community. As a stimulus, the teacher is present. Students will raise questions about the community. To answer the questions, students would be led to do research individually or in small groups about the community's history, development, and resources. The teacher acts as one of the resource persons. The resource persons do not provide answers but guide where necessary to other resources such as magazines and other reference materials. Students then will search for relevant materials to answer the questions they raised. Critical thinking is involved here prompted by interest to inquire (Zenger, 1985).

As stated elsewhere in this article students must be able to use scientific methods to solve empirical problems in order to make sound decisions. To be able to guide students effectively, the teacher must first accept the scientific method as the valuable way to attain knowledge, and use the method himself/herself when faced with a problem. It is clear that the teacher who reaches conclusions on the basis of tradition, authority or intuition will be unable to help students to attack social problems scientifically. In other words, the behavior the teacher exhibits in the classroom and outside influences students' attitudes, perceptions, and behavior.

The teacher in an inquiry-oriented classroom must be well informed about the method of science, and fully appreciate the tentative nature and limitations of scientific knowledge. He/she must

realize that scientific knowledge changes when the values and goals of a society change. The scientific teacher is more committed to the method than to the product of scientific inquiry. At the same time, he/she is aware that action must be based on current knowledge. This fact makes him/her to appreciate the need for facts, concepts, and generalizations (Bank, 1990).

Evaluating Inquiry Teaching

Most classroom teachers measure the learning outcome of their instructions regularly. Those who use inquiry teaching strategies have to do the same. In addition, the very nature of inquiry teaching requires much more attention to classroom evaluation than other teaching methods. It is important for the teacher to evaluate learners frequently to justify the value of the inquiry method over others and for measuring learning outcomes. Therefore, evaluation in the inquiry method is very important right from the start.

Evaluation, for most teachers, is an on going process and highly subjective. For this reason, detailed lesson plans are highly recommended to emphasize key operations which students need to stress. Success in the application of the inquiry method depends on careful evaluations at each stage in order to progress to subsequent steps. However, this kind of evaluation does not generate replicable evidence that can serve as a basis for reflection and analysis. Such efforts have limited use in determining overall student achievement or in refining the instructional procedures or material used in an inquiry lesson (Turner, 1999).

To be more effective, evaluation must consider two factors.

1. One must consider objectives to be evaluated and the outcomes expected. In other words, cognitive objectives which include concepts, generalizations and special skills must be considered.

2. The affective domain must be evaluated and should include values, attitudes, and preferences. By

measuring what students have learned from their participation, teachers can secure much needed insights into the quality of learning and their classroom teaching too (Beyer, 1979).

A sound evaluation program should appraise the students' ability to use the scientific method of inquiry to derive forms of knowledge such as facts, concepts, and theories.

Advantages of Using the Inquiry Method

1. Inquiry teaching deeply involves students both cognitively and affectively in learning. It responds to their own interests and allows them ample self-direction towards the kind of learning they wish to achieve.

2. Inquiry enables students to achieve many goals simultaneously rather than seeking to achieve one at a time. This attribute of inquiry teaching is perhaps one of its most attractive assets.

Disadvantages of using the inquiry method

1. Helping students to derive generalizations independently could be very time consuming and often tries the patience of the teacher.

2. Planning and preparations for teachers are time consuming.

3. Inquiry methods can lead to a noisy classroom if not well managed.

4. The inquiry method requires certain skills which teachers may not have and may not therefore be able to motivate poor learners.

5. The inquiry method requires more teaching/learning materials and can be expensive.

6. It may cause the teacher to forget the overall aim of the unit.

7. It can cause controversies in societies that tend to be conservative.

Conclusion

Inquiry teaching involves thinking, manipulating, and processing information in order to give

it tested meaning. Inquiry teaching is not the only method that can be used in the classroom. Unlike other instructional methods it does involve students more actively inside and outside the classroom. Learning should be viewed as an active endeavor which involves the teacher as a facilitator, learners as capable and self-motivated, and learning, teaching as a cooperative process leading inquiry into the unknown and broadening the goals of education. It is through this that social studies can be more meaningful and interesting in the classroom and beyond.

Developing an inquiry-oriented teaching strategy is not easy. Learning how to teach using the inquiry method is even more difficult. Studies about inquiry and development of strategies built thereon can be easier and may clarify the type of factors that must be taken into account if these strategies are to be employed effectively in the classroom.

In spite of shortcomings, inquiry teaching and learning are valid ways of coping in an age of crises. In sum, it is the responsibility of teachers and educators in general to see to it that inquiry is used in its true context and content - to create new ideas, to challenge established institutions, and to seek fresh alternatives for the society in which we live.

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